2006, Mathematics - Grade 8

Question 9: Open-Response

Reporting Category: Number Sense and Operations

Standard: 8.N.12

Jerry wants to copy five files onto a compact disc (CD). The CD can hold a total of 700 megabytes of data. The size, in megabytes, of each of Jerry’s files is shown in the chart below.

Sizes of Jerry’s Files

|  |  |
| --- | --- |
| File Number  (megabytes) | Size of File |
| 1 | 47.76 |
| 2 | 58.32 |
| 3 | 178.99 |
| 4 | 110.55 |
| 5 | 96.75 |

1. What is the difference, in megabytes, between the largest and smallest of the five files? Show or explain how you got your answer.

2. Jerry estimated that the total number of megabytes in the five files was about 500 megabytes. Do you agree or disagree with Jerry’s estimate? Show or explain how you got your answer.

3. Based on Jerry’s estimate, what percent of the 700 total megabytes that the CD can hold will be left after Jerry copies these five files to the CD? Show or explain how you got your answer.

2005, Mathematics - Grade 8

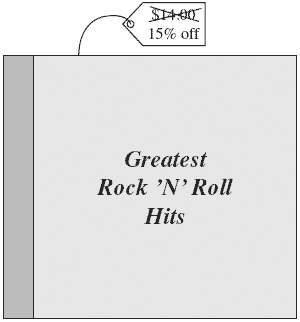
Question 39: Open-Response

Reporting Category: Number Sense and Operations

Standard: 8.N.10

This item allows use of a calculator

Andrea works as a cashier in a music store. A customer wants to pay for a CD that is on sale for 15% off the regular price of $14.00.



The cash register is broken, and Andrea must calculate the price of the CD using only a calculator.

1. What is the sale price of the CD? Show or explain how you got your answer.

2. Andrea needs to add 7% sales tax to the sale price of the CD. What should Andrea charge the customer for the CD, including tax? Show or explain how you got your answer.

3. The customer told Andrea that she could save time by just taking 8% off the regular price of the CD, because 15% – 7% is 8%. Is the customer right? Explain your reasoning.

2004, Mathematics - Grade 8

Question 28: Open-Response

Reporting Category: Number Sense and Operations

This item allows use of a calculator

Colin plans to order three types of skateboard parts. He plans to order a total of ten parts. He can order online (over the Internet) from Tony's Skateboard Shop, or he can order from a local store.

Colin's online order from Tony's Skateboard Shop is shown in the order form below.

Tony's Skateboard Shop Order Form

**Type of Part Price per Unit Units Ordered Cos**t

Truck $8.95 2

Wheel $6.95 4

Package of Bearings $2.45 4

**Subtotal**

**Online Discount** −$2.00

**Subtotal After Discount**

**Sales Tax (5% of the Subtotal After Discount**)

**Total Payment Due**

Use the order form above to answer parts a, b, and c.

1. The Subtotal amount is the total cost of all ten parts before any discount or tax. What is the Subtotal amount for the ten parts that Colin plans to order? Show your work or explain your answer.

2. By ordering online from Tony's Skateboard Shop, Colin is entitled to an Online Discount of $2.00 off the Subtotal amount. Sales Tax of 5% is added to the Subtotal After Discount. What is the Total Payment Due if Colin orders online from Tony's Skateboard Shop? Show your work or explain your answer.

3. Colin learns that the local store can provide the same ten parts, each one at the same Price per Unit that Tony's Skateboard Shop charges, but the local store will give Colin a 20% discount on the Subtotal amount. After this discount, Colin will still need to pay sales tax of 5%. If Colin orders from the local store, how much less will Colin pay for the skateboard parts than if he ordered the same parts online from Tony's Skateboard Shop?

2003, Mathematics - Grade 8

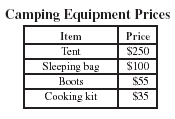
Question 29: Open-Response

Reporting Category: Number Sense and Operations

Standard: 8.N.10

This item allows use of a calculator

Jeremy has been saving money to buy some camping equipment from a store. The chart below shows the prices for some of the equipment he needs.



1. The camping equipment store is offering a 20% discount this weekend on each of the camping items listed in the chart. After the 20% discount, and before tax is added, what is the price of the tent?

2. Jeremy must also pay a 7% sales tax for his total purchase. Including the discount and after the tax is added, what will it cost Jeremy to buy one each of the four pieces of equipment in the chart?

3. Jeremy has a coupon that will allow him to take an additional 10% off the discounted price of the sleeping bag.



If Jeremy uses the coupon above to buy the sleeping bag, what is the final price of the sleeping bag, before tax is added?